

Texas Water Development Board



Water Conditions

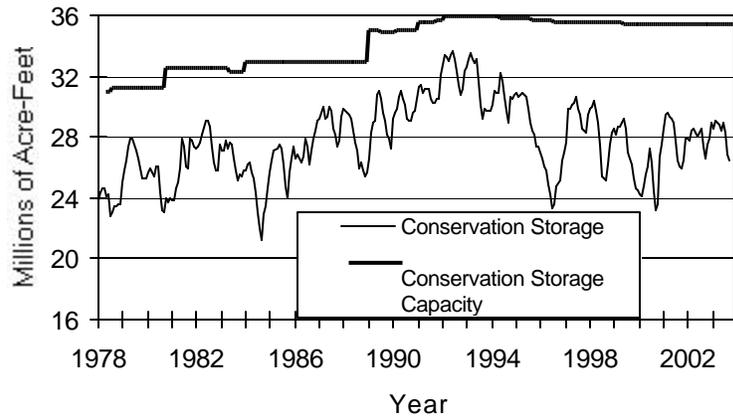
RESERVOIR STORAGE

September 2003

Near the end of September, the 77 reservoirs monitored for this report held 26.45 million acre-feet in conservation storage, or 76.7 percent of the conservation storage capacity of the state's major reservoirs. Statewide total storage is below normal for this time of year. Storage decreased during the month by 0.43 million acre-feet (-1.3% of conservation storage capacity). Compared to the previous year, storage is slightly less, down 0.09 million acre-feet (-0.3%).

Storage in the Upper Coast Region is near capacity (98%), while the High Plains (26%) and Trans-Pecos (16%) Regions remained lower than one-third. Storage is at 100% in 4 reservoirs, down one from last month. Compared to this time last year, the Edwards Plateau had the largest increase in storage (+6%), while the High Plains again had the steepest decline (-8%).

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS



Current data are based on elevation near end of month at 77 reservoirs that represent 98 percent of total conservation storage capacity in Texas reservoirs having a capacity of 5,000 acre-feet or more.

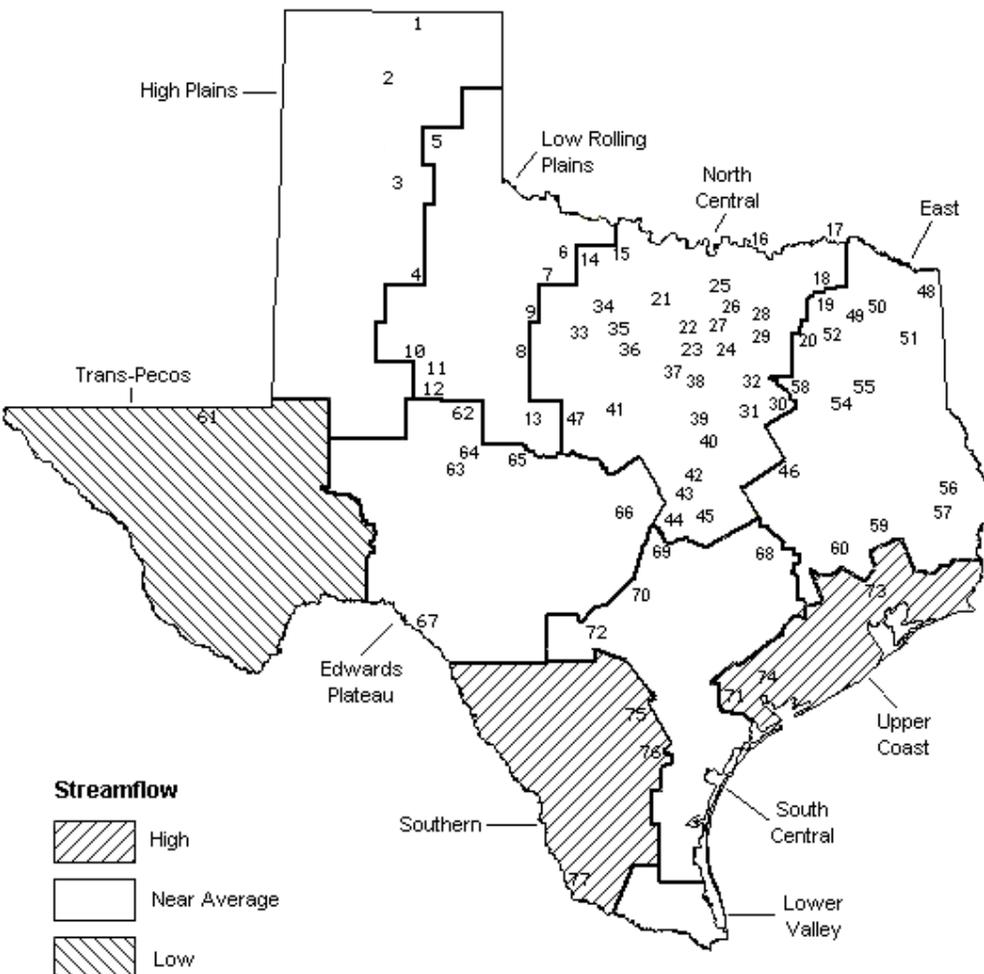
STREAMFLOW

Of 29 reporting index stations in September, computed 30-day mean flows were high (5% - 30% exceedance) at 7 stations, near normal (30% - 70% exceedance) at 14 stations, and low (70% - 95% exceedance) at 8 stations. In comparison to August, flows increased at 25 index stations and decreased at 4.

On a regional basis, flows in September were high in the Southern and Upper Coast Regions, low in the Trans-Pecos Region, and near normal everywhere else.

SEPTEMBER STREAMFLOW CONDITIONS

Reservoirs Shown on Map



- | | |
|----------------------------------|-----------------------------|
| 1. Palo Duro Reservoir | 40. Waco Lake |
| 2. Lake Meredith | 41. Proctor Lake |
| 3. MacKenzie Reservoir | 42. Belton Lake |
| 4. White River Lake | 43. Stillhouse Hollow Lake |
| 5. Greenbelt Reservoir | 44. Lake Georgetown |
| 6. Lake Kemp | 45. Granger Lake |
| 7. Miller's Creek Reservoir | 46. Lake Limestone |
| 8. Fort Phantom Hill Reservoir | 47. Lake Brownwood |
| 9. Lake Stamford | 48. Wright Patman Lake |
| 10. Lake J. B. Thomas | 49. Lake Cypress Springs |
| 11. Lake Colorado City | 50. Lake Bob Sandlin |
| 12. Champion Creek Reservoir | 51. Lake O' the Pines |
| 13. Hords Creek Lake | 52. Lake Fork Reservoir |
| 14. Lake Kickapoo | 53. Toledo Bend Reservoir |
| 15. Lake Arrowhead | 54. Lake Palestine |
| 16. Lake Texoma | 55. Lake Tyler |
| 17. Pat Mayse Lake | 56. Sam Rayburn Reservoir |
| 18. Cooper Lake | 57. B. A. Steinhagen Lake |
| 19. Lake Sulphur Springs | 58. Cedar Creek Reservoir |
| 20. Lake Tawakoni | 59. Lake Livingston |
| 21. Bridgeport Reservoir | 60. Lake Conroe |
| 22. Eagle Mountain Reservoir | 61. Red Bluff Reservoir |
| 23. Benbrook Lake | 62. E. V. Spence Reservoir |
| 24. Joe Pool Lake | 63. Twin Buttes Reservoir |
| 25. Ray Roberts Lake | 64. O. C. Fisher Lake |
| 26. Lewisville Lake | 65. O. H. Ivie Reservoir |
| 27. Grapevine Lake | 66. Lake Buchanan |
| 28. Lavon Lake | 67. Intl. Amistad Reservoir |
| 29. Lake Ray Hubbard | 68. Somerville Lake |
| 30. Richland-Chambers Creek Lake | 69. Lake Travis |
| 31. Navarro Mills Lake | 70. Canyon Lake |
| 32. Bardwell Lake | 71. Coletto Creek Reservoir |
| 33. Hubbard Creek Reservoir | 72. Medina Lake |
| 34. Lake Graham | 73. Lake Houston |
| 35. Possum Kingdom Lake | 74. Lake Texana |
| 36. Lake Palo Pinto | 75. Choke Canyon Reservoir |
| 37. Lake Granbury | 76. Lake Corpus Christi |
| 38. Lake Pat Cleburne | 77. Intl. Falcon Reservoir |
| 39. Whitney Lake | |

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation	Conservation		Change since		Change since		
		Storage Capacity (acre-feet)	Storage Late Sept. 2003 (acre-feet) (%)		Late August 2003 (acre-feet) (%)	Late September 2002 (acre-feet) (%)			
HIGH PLAINS									
Palo Duro Reservoir	1	60,900	3,340	5	-240	0	-700	-1	
Lake Meredith (Texas)	2	500,000	152,380	30	-230	0	-52,220	-10	
Lake Meredith (Texas and Oklahoma)	(2)	779,560	152,380	20	-230	0	-52,220	-7	
MacKenzie Reservoir	3	46,250	6,370	14	-200	0	-660	-1	
White River Lake	4	31,850	6,320	20	-490	-2	1,140	4	
TOTAL		639,000	168,410	26	-1,160	0	-52,440	-8	
LOW ROLLING PLAINS									
Greenbelt Reservoir	5	58,200	24,560	42	2,310	4	2,780	5	
Lake Kemp	6	319,600	188,090	59	-3,250	-1	-17,910	-6	
Miller's Creek Reservoir	7	27,890	13,230	47	-700	-3	-2,580	-9	
Fort Phantom Hill Reservoir	8	70,030	34,210	49	-1,950	-3	-11,830	-17	
Lake Stamford	9	52,700	35,360	67	-1,720	-3	-5,330	-10	
Lake J. B. Thomas	10	202,300	22,060	11	130	0	2,470	1	
Lake Colorado City	11	30,800	21,390	69	-530	-2	4,470	15	
Champion Creek Reservoir	12	41,600	3,230	8	350	1	870	2	
Hords Creek Lake	13	8,600	1,860	22	-80	-1	-640	-7	
TOTAL		811,720	343,990	42	-5,440	-1	-27,700	-3	
NORTH CENTRAL									
Lake Kickapoo	14	106,000	68,050	64	-1,730	-2	-15,900	-15	
Lake Arrowhead	15	262,100	129,000	49	-4,310	-2	-21,900	-8	
Lake Texoma	16	2,722,300	2,346,720	86	-3,130	0	-143,280	-5	
Pat Mayse Lake	17	124,500	109,040	88	-2,950	-2	240	0	
Cooper Lake	18	273,000	255,500	94	-14,890	-5	-14,900	-5	
Lake Sulphur Springs	19	17,710	16,090	91	-650	-4	-230	-1	
Lake Tawakoni	20	936,200	812,300	87	-15,200	-2	-6,100	-1	
Bridgeport Reservoir	21	374,830	258,600	69	-5,800	-2	-28,800	-8	
Eagle Mountain Reservoir	22	178,380	140,100	79	-500	0	-2,600	-1	
Benbrook Lake	23	88,200	70,970	80	2,290	3	1,810	2	
Joe Pool Lake	24	175,800	175,800	100	3,840	2	7,000	4	
Ray Roberts Lake	25	798,760	752,800	94	-3,330	0	-16,100	-2	
Lewisville Lake	26	555,000	544,180	98	-10,820	-2	-10,820	-2	
Grapevine Lake	27	187,700	168,460	90	2,030	1	5,960	3	
Lavon Lake	28	443,800	360,470	81	-8,430	-2	2,670	1	
Lake Ray Hubbard	29	413,420	367,900	89	-6,000	-1	10,600	3	
Richland-Chambers Creek Lake	30	1,103,820	1,064,000	96	-16,000	-1	12,000	1	
Navarro Mills Lake	31	55,810	49,230	88	-1,000	-2	-1,430	-3	
Bardwell Lake	32	53,580	43,080	80	-730	-1	1,990	4	
Hubbard Creek Reservoir	33	317,800	129,900	41	-3,000	-1	-22,100	-7	
Lake Graham	34	45,000	24,610	55	-780	-2	-5,920	-13	
Possum Kingdom Lake	35	551,820	456,400	83	-5,300	-1	-36,400	-7	
Lake Palo Pinto	36	27,650	16,100	58	-130	0	-1,440	-5	
Lake Granbury	37	135,680	132,900	98	-200	0	-700	-1	
Lake Pat Cleburne	38	25,300	21,330	84	-760	-3	-230	-1	
Whitney Lake	39	622,800	447,530	72	6,550	1	-67,770	-11	
Waco Lake	40	144,500	139,380	96	6,550	5	3,080	2	
Proctor Lake	41	55,590	43,850	79	-1,990	-4	-5,000	-9	
Belton Lake	42	434,500	415,130	96	-1,670	0	-2,670	-1	
Stillhouse Hollow Lake	43	226,060	220,620	98	-510	0	-3,880	-2	
Lake Georgetown	44	37,010	27,150	73	-2,070	-6	-9,860	-27	
Granger Lake	45	54,280	47,480	87	-2,480	-5	-6,800	-13	
Lake Limestone	46	215,750	196,900	91	-3,200	-1	-1,900	-1	
Lake Brownwood	47	143,400	122,730	86	-250	0	-570	0	
TOTAL		11,908,050	10,174,300	85	-96,550	-1	-381,950	-3	

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

Name of Lake or Reservoir	No. on Map	Conservation	Conservation	Change since		Change since		
		Storage Capacity (acre-feet)	Storage Late Sept. 2003 (acre-feet) (%)	Late August 2003 (acre-feet) (%)	Late September 2002 (acre-feet) (%)			
EAST								
Wright Patman Lake	48	142,700	142,700	100	0	0	0	0
Lake Cypress Springs	49	66,800	63,870	96	-740	-1	-540	-1
Lake Bob Sandlin	50	202,300	187,100	92	-3,400	-2	-6,400	-3
Lake O' the Pines	51	252,000	233,940	93	11,000	4	-6,860	-3
Lake Fork Reservoir	52	635,200	592,500	93	-7,400	-1	-35,900	-6
Toledo Bend Reservoir	53	4,472,900	3,571,000	80	-220,000	-5	41,000	1
Lake Palestine	54	411,300	375,130	91	-11,330	-3	30	0
Lake Tyler	55	73,700	71,500	97	-2,200	-3	-2,200	-3
Sam Rayburn Reservoir	56	2,876,300	2,442,340	85	-154,720	-5	164,340	6
B. A. Steinhagen Lake	57	94,200	81,530	87	-9,220	-10	-5,580	-6
Cedar Creek Reservoir	58	637,050	581,200	91	-14,600	-2	-9,800	-2
Lake Livingston	59	1,750,000	1,732,000	99	-18,000	-1	2,000	0
Lake Conroe	60	429,900	413,100	96	5,600	1	13,800	3
TOTAL		12,044,350	10,487,910	87	-425,010	-4	153,890	1
TRANS-PECOS								
Red Bluff Reservoir	61	307,000	50,460	16	-1,550	-1	7,260	2
TOTAL		307,000	50,460	16	-1,550	-1	7,260	2
EDWARDS PLATEAU								
E. V. Spence Reservoir	62	488,760	51,990	11	-240	0	5,540	1
Twin Buttes Reservoir	63	177,800	4,430	2	230	0	-1,460	-1
O.C. Fisher Lake	64	119,200	3,320	3	-200	0	-180	0
O. H. Ivie Reservoir	65	554,340	194,200	35	-3,800	-1	-22,100	-4
Lake Buchanan	66	896,980	789,120	88	16,530	2	-34,080	-4
Amistad Reservoir (Texas)	67	1,771,030	955,000	54	19,000	1	309,000	17
Amistad Reservoir (Texas and Mexico)	(67)	3,151,300	1,234,000	39	50,000	2	393,000	12
TOTAL		4,008,110	1,998,060	50	31,520	1	256,720	6
SOUTH CENTRAL								
Somerville Lake	68	155,060	151,910	98	550	0	10	0
Lake Travis	69	1,144,100	959,850	84	-12,400	-1	-123,150	-11
Canyon Lake	70	385,600	373,600	97	-2,450	-1	-6,100	-2
Coletto Creek Reservoir	71	35,060	31,900	91	3,020	9	490	1
Medina Lake	72	254,000	239,300	94	-2,400	-1	-14,700	-6
TOTAL		1,973,820	1,756,560	89	-13,680	-1	-143,450	-7
UPPER COAST								
Lake Houston	73	128,860	128,860	100	0	0	0	0
Lake Texana	74	157,900	152,230	96	11,750	7	-5,470	-3
TOTAL		286,760	281,090	98	11,750	4	-5,470	-2

CONSERVATION STORAGE DATA FOR SELECTED MAJOR TEXAS RESERVOIRS

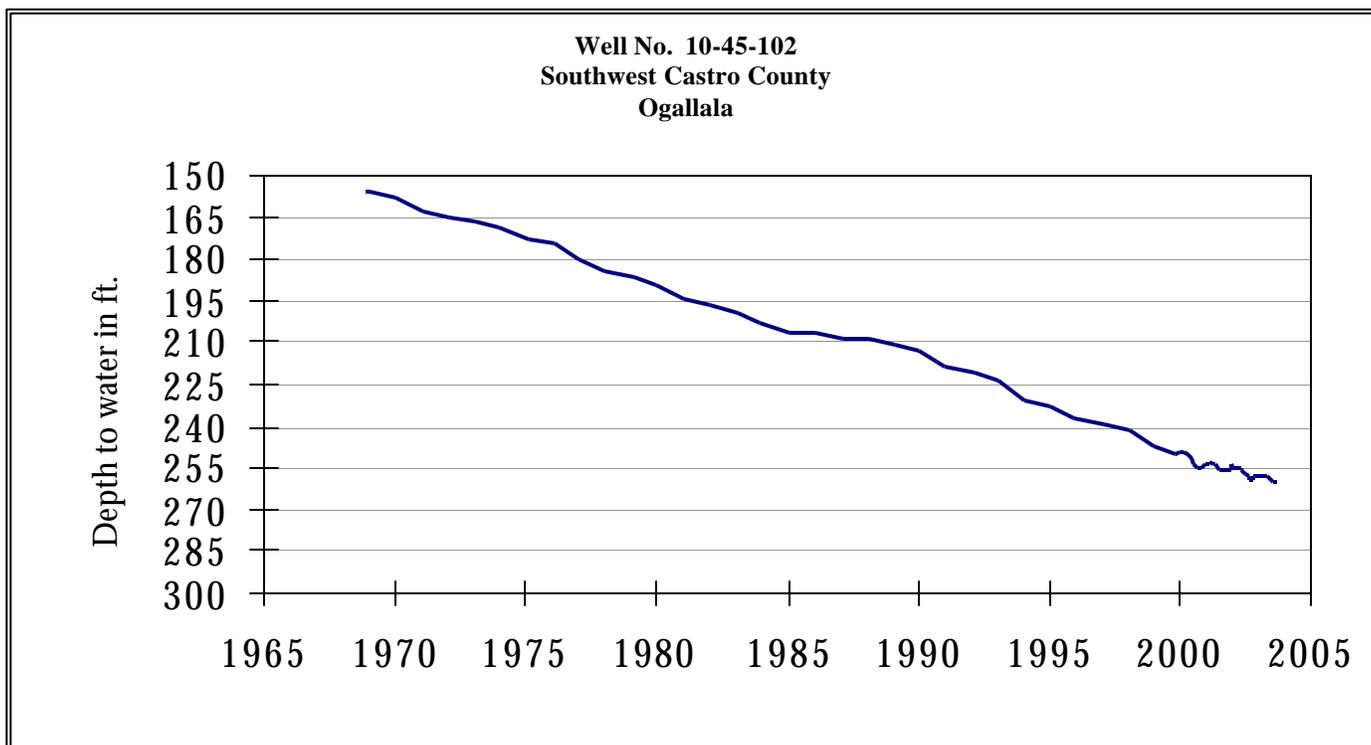
Name of Lake or Reservoir	No. on Map	Conservation	Conservation		Change since		Change since		
		Storage Capacity (acre-feet)	Storage Late Sept. 2003 (acre-feet)	(%)	Late August 2003 (acre-feet)	(%)	Late September 2002 (acre-feet)	(%)	
SOUTHERN									
Choke Canyon Reservoir	75	695,260	690,000	99	12,000	2	1,000	0	
Lake Corpus Christi	76	241,240	241,240	100	10,880	5	0	0	
Falcon Reservoir (Texas)	77	1,555,120	257,000	17	43,000	3	101,000	6	
Falcon Reservoir (Texas and Mexico)	(77)	2,653,290	584,500	22	182,500	7	215,500	8	
TOTAL		2,491,620	1,188,240	48	65,880	3	102,000	4	
STATE TOTAL		34,470,430	26,449,020	77	-434,240	-1	-91,140	0	

Note:

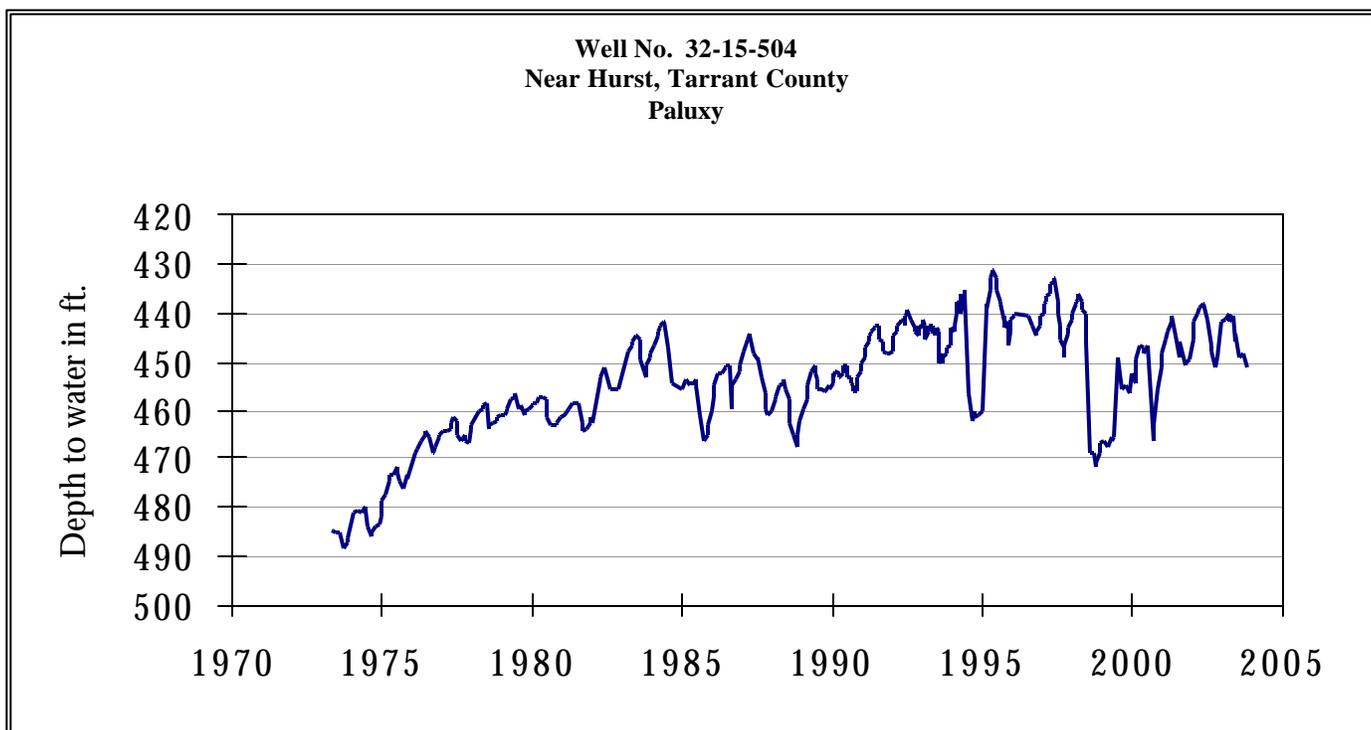
Conservation storage capacity is the space available to store water above the level of invert of lowest outlet works and below the level of top of conservation pool or normal maximum operating level. Conservation storage refers to the volume of water held within the conservation storage space. Not included is any water in flood control storage (above the top of conservation pool or normal maximum operating level), or any water in so called dead storage (in the bottom of the reservoir, below the invert of lowest outlet works and consequently not removable by gravity flow alone.) Percentage of conservation storage is based on the conservation storage capacity of the reservoir and the conservation storage in the reservoir for date shown. Percent change is given by % Change = 100 * (current conservation storage - past conservation storage)/conservation storage capacity.

Current data are based on elevations near end of month at 77 reservoirs that together represent 98 percent of the total conservation storage capacity of major Texas reservoirs (those with capacity of 5,000 acre-feet or more each). Figures in parentheses for Lake Meredith represent the total conservation storage excluding 58,014 acre-feet of dead storage and are not included in State total. Preliminary figures are shown for the United States' share of conservation storage in International Amistad and International Falcon Reservoirs; the estimates may be subject to revision on completion of international water accounting. Texas (United States' share) and Mexico and are not included in State total.

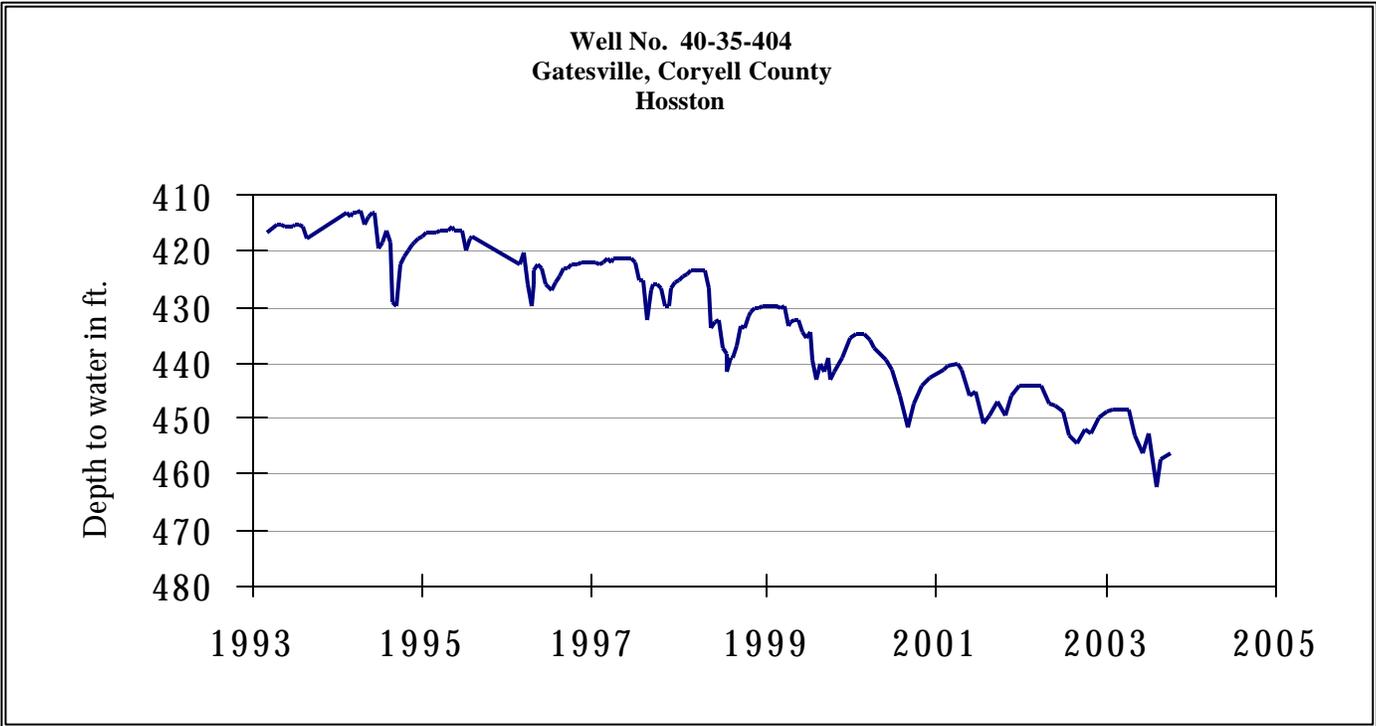
SEPTEMBER GROUND WATER LEVELS IN OBSERVATION WELLS



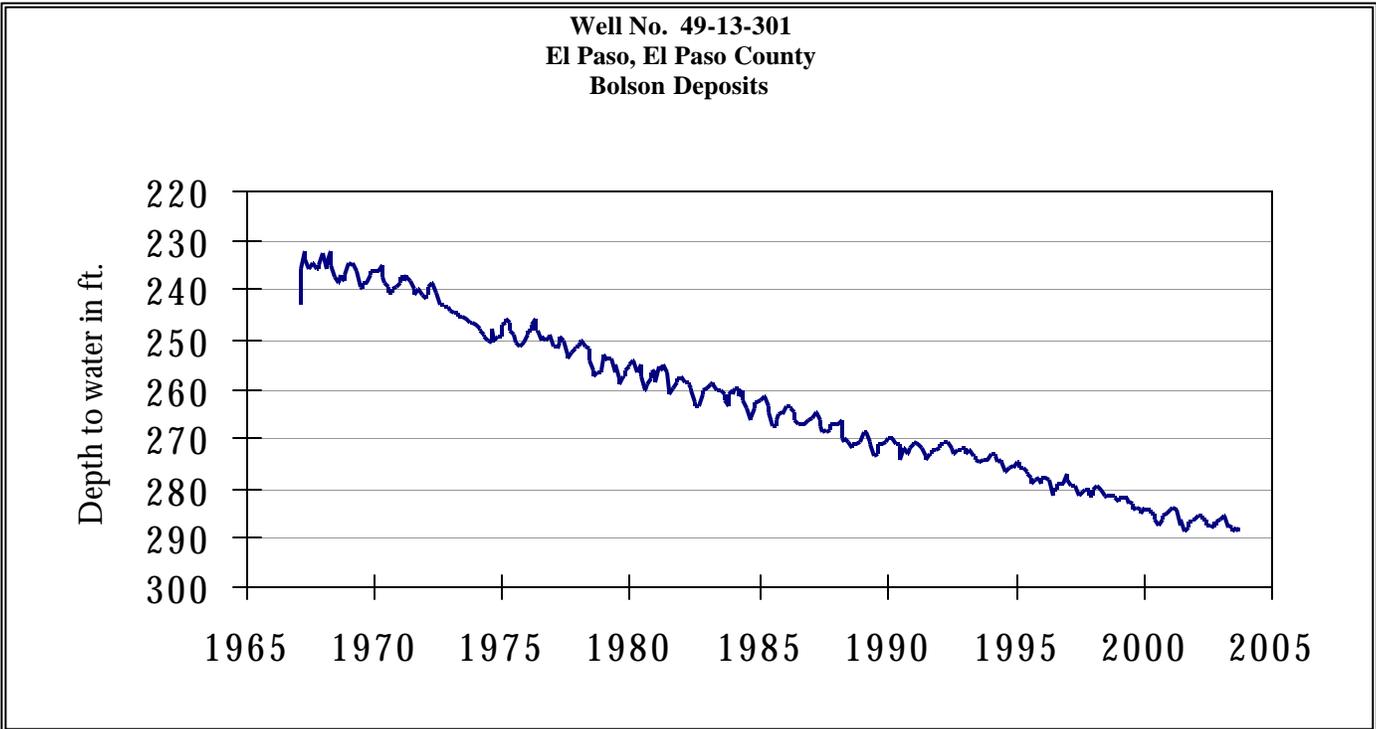
The late September water-level measurement in this Ogallala aquifer well, elevation 3,816 feet above sea level, was 260.83 feet below land surface. This measurement was 0.23 feet below last month's measurement, 2.14 feet below last year's measurement, and 104.83 feet below the initial measurement recorded in 1968.



The late September water-level measurement in this Paluxy Formation Trinity aquifer well, elevation 535 feet above sea level, was 451.19 feet below land surface. This measurement was 2.89 feet below last month's measurement, 0.26 feet above last year's measurement, and 57.80 feet below the initial measurement recorded in 1953.

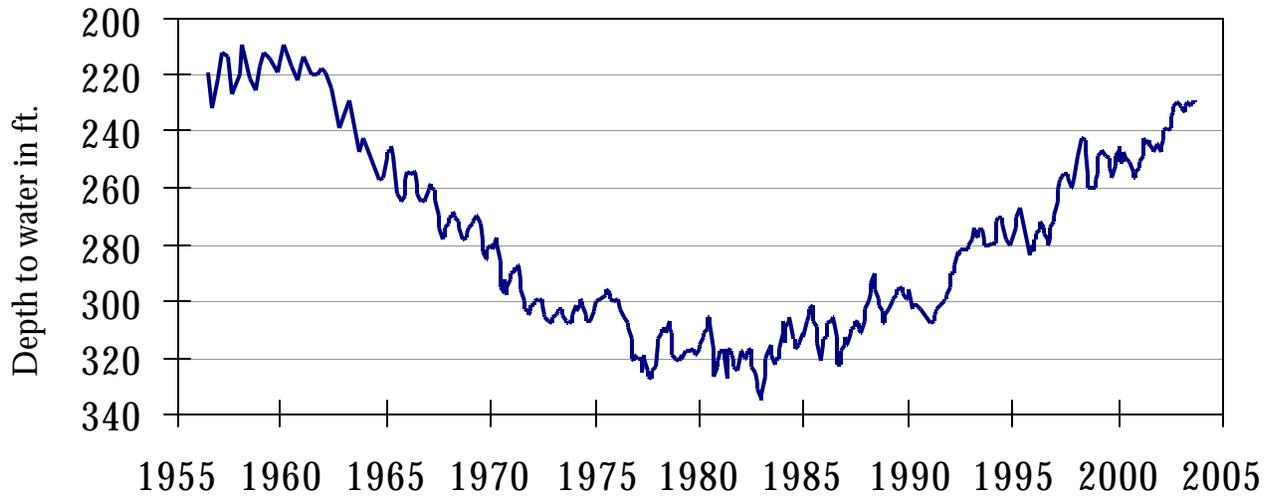


The late September water-level measurement in this Hosston Formation Trinity aquifer well, elevation 823 feet above sea level, was 456.21 feet below land surface. This measurement was 1.19 feet above last month's measurement, 4.12 feet below last year's measurement, and 164.21 feet below the initial measurement recorded in 1955.



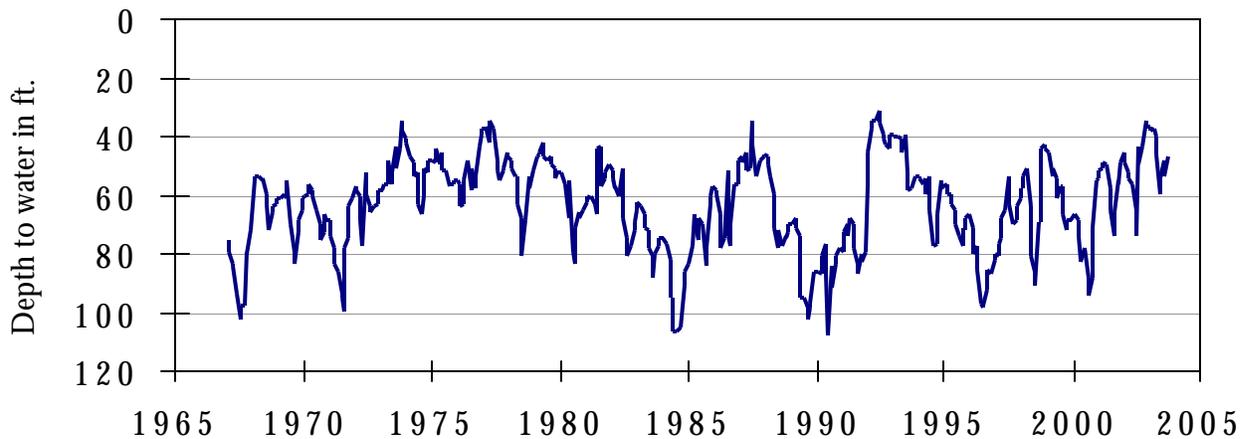
The late September water-level measurement in this Hueco Bolson aquifer well, elevation 3,882 feet above sea level, was 288.26 feet below land surface. This was 0.54 feet above last month's measurement, 1.21 feet below last year's measurement, and 56.36 feet below the initial measurement recorded in 1964.

**Well No. 65-14-409
Alief, Harris County
Evangeline**



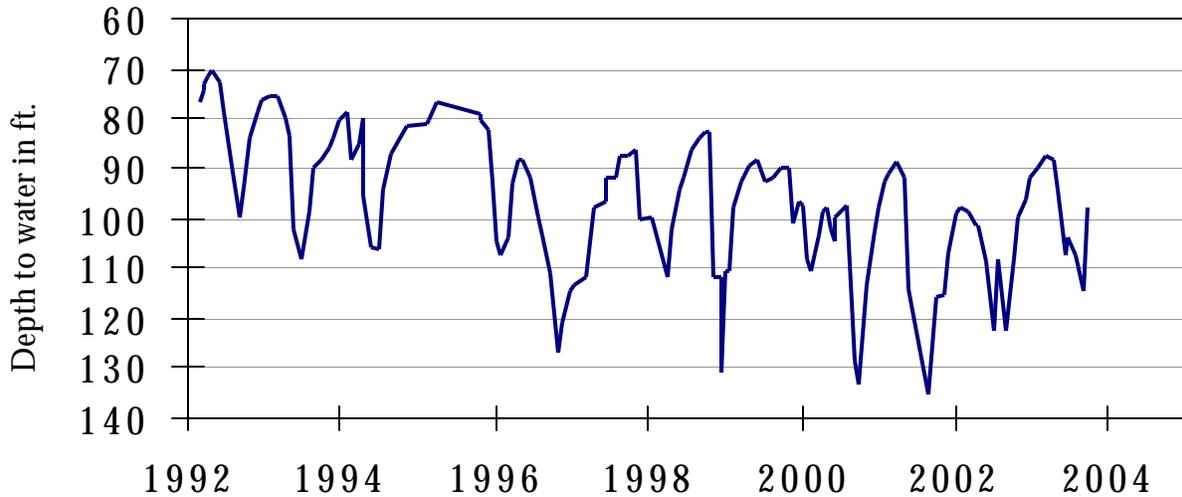
The late September water-level measurement in this Evangeline Formation Gulf Coast aquifer well, elevation 66 feet above sea level, was 228.59 feet below land surface. This was 1.31 feet above last month's measurement, 2.71 feet above last year's measurement, and 125.36 feet below the initial measurement recorded in 1947.

**Well No. 68-37-203 (J-17)
In San Antonio, Bexar County
Edwards and Associated Limestones**



The late September water-level measurement in this Edwards (BFZ) aquifer well, elevation 731 feet above sea level, was 47.24 feet below land surface. This was 5.76 feet above last month's measurement, 3.62 feet below last year's measurement, and 12.38 feet above the initial measurement recorded in 1962.

Well No. 68-60-912
Between Poteet and Pleasanton, Atascosa County
Carrizo



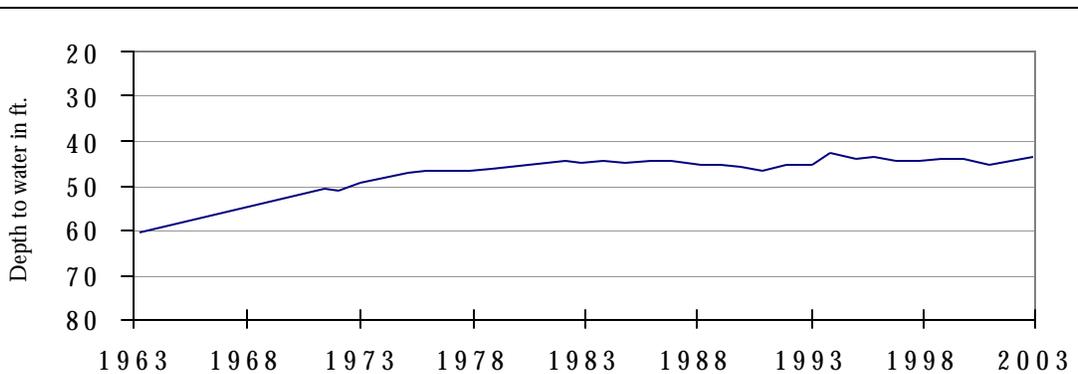
The late September water-level measurement in this Carrizo aquifer well, elevation 446 feet above sea level, was 97.74 feet below land surface. This measurement was 17.18 feet above last month's measurement, 10.36 feet above last year's measurement, and 16.49 feet below the initial measurement recorded in 1965.

HYDROGRAPH OF THE MONTH



Each month this space features a new hydrograph (marked with the • symbol on the map) depicting different aquifers and different conditions in Texas.

Well No. 38-37-901
Houston County



This 315 ft. observation well, located 5.5 miles north of the city of Crockett at an elevation of 441 feet above sea level, was completed in the Sparta Aquifer. Current and historical water-level and water-quality data does not indicate any problems for the Sparta Aquifer. Any future development should incorporate sound management practices.

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